



#4

SEQUENCE LISTING

<110> Norris et al.

<120> TISSUE-SPECIFIC AND TARGET RNA-SPECIFIC RIBOZYMES

<130> 9175-010

<140> 09/338,942

<141> 1999-06-24

<150> 60/090,560

<151> 1998-06-24

<150> 60/096,502

<151> 1998-08-14

<160> 52

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 492

<212> DNA

<213> Artificial Sequence

<220>

<223> ARN promoter

<400> 1

actcgcgat	catcttcacc	atcggccgca	actcctgcgg	gatatacctcg	tcctcctcct	60
ccaccggcac	ccccatggta	gcggccagct	cgcgccctgc	ctgggaaagc	tgtacatgct	120
gateggcggc	gtcgggtgccg	gcggccgggt	cttcgcgctg	ctcggcgggtg	ccgggtccgtg	180
cggccttggc	gtccgcggcg	gcgcgcgatg	agggcgccac	ctgggtgggtg	atccagccac	240
tgagggtcaa	cattccagtc	actccgggaa	aaatggaatt	cttcatttgg	atcggtccac	300
gcgtcgcgaa	cttgagcccc	cttttcgtcg	ccccttgaca	gggtgcgaca	ggtagtcgca	360
gttgtttgac	gcaagtcact	gattggaaac	gccatcggcc	tgtcagaaat	ggtcgttgcc	420
agacctatgg	ctggcaccgc	catcgcggt	gcgttaccct	tactcctggt	gtgcctttaa	480
cctagcaagg	ac					492

<210> 2

<211> 1113

<212> DNA

<213> Artificial Sequence

<220>

<223> PROC promoter

<400> 2

aattcctcga	agtccttgcc	ctgcttgctg	ttcatgatgt	cgtagatcag	cgcattgcacc	60
tgcttggtgt	ccagcggtgg	caggttgatc	cgccgtacat	cgccatccac	ccggatcatg	120
ggtaggcagg	cggcgagag	gtgcagggtc	gaagcgccct	gtttggcact	gaaggcgagc	180
agtcgggtaa	tatccatggg	actccccaat	tacaagcaag	caggtagaat	gccgccaaag	240
ccgccgtctc	ggacaaggaa	aacaccggat	gagccagggt	gcttccagga	cacgcgtggt	300
gtcctgcgcc	agacgcggaa	cctcgacact	ggaacaggaa	gatggccatc	gaggccggcg	360
gtttcgaggg	cgtcgagccg	acgccgaccg	cacttccata	gggcgcaggt	aatgtccacg	420
atagcagaga	atattgcaaa	ggttgcccgc	cgcattccgtg	aggcagcgca	agctgcgggg	480

cgcgatccgg	ccacgggtcgg	cctgctcgcc	gtgagcaaga	ccaagcccgc	cgccgcggtg	540
cgcgaggcgc	acgccgccgg	ccttcgcgac	ttcggcgaaa	actacctgca	ggaggccctc	600
ggcaagcagg	ccgaactggc	cgacctgccc	ttgaactggc	acttcacggt	ccccatccag	660
tcgaacaaga	cgcgggcccat	cgccgagcat	ttccagtggg	tgcactcggt	ggaccggttg	720
aagatcgcg	agcgccctgtc	ggagcaacgc	ccggccgggc	tgccgcccct	gaatgtctgc	780
ctgcagggtca	acgtcagcgg	cgaagccagc	aagtccggct	gcgcccccca	ggacctgccg	840
gccctggccg	aggccgtgaa	gcaactgccc	aacctccgat	tgcgtggcct	gatggccatc	900
cccgaaccca	ccgccgaacg	cgccgcgcaa	cacgccgcgt	tcgcccgcct	gcgcgaactg	960
ctgctggacc	tgaaccttgg	cctggacacc	ctgtccatgg	gcattgagcga	cgacctcgag	1020
gcagccatcg	gcgaagggtgc	gacctgggtc	cgcacggtga	ccgccctgtt	cggcgcccgc	1080
gactacggcg	cgccggcttc	ttgaatgaat	ccc			1113

<210> 3
 <211> 66
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ARC promoter

<400> 3		
ctagagciat	tgatgtggat caacattgtc cactagccgc tgccgcctaa tctccagaat	60
tgtgag		66

<210> 4
 <211> 685
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> UPCM2 cassette sequence

<400> 4		
tcagaaaatt	atthttaaatt tccaattgac attgtgagcg gataacaata taatgtgtgg	60
aagcttatcg	ataccgtcga cctcgaagct ttggaaccct gatgagtcgg tgaggacgaa	120
acgatgacat	tctgctgacc agattcacgg tcagcagaat gtcacgctcg gttccaggat	180
ccggctgcta	acaaagcccc aaaggaagct gagttggctg ctgccaccgc tgagcaataa	240
ctagcataac	cccttggggc ctctaaacgg gtcttgaggg gttttttgct gaaaggagga	300
actatatccg	gatatcccgc aagaggcccg gcagtaccgg cataaccaag cctatgccta	360
cagcatccag	ggtgacgggtg ccgaggatga cgatgagcgc attgttagat ttcatacacg	420
gtgcctgact	gcgttagcaa tttaactgtg ataaactacc gcattaaagc ttatcgatga	480
taagctgtca	aacatgagaa ttcggcggtat acgccgaatt tcaagggtct gcgcaacgac	540
gacgatgagg	taccacatcg tcgtcggttg gcactgatga ggccgtgagg ccgaaaccct	600
tgacgcgtaa	aaaaaacccg ccccgccggg tttttttacc ttctatgcg gccgctctag	660
tcgagggggg	gcccgcctaga actag	685

<210> 5
 <211> 673
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> P2CM2 cassette sequence

<400> 5		
agaaagcaaa	aataaatgct tgacactgta gcgggaaggc gtataatgga attgtgagcg	60
gataacaatt	cacaagctta tcgataccgt cgacctcgag ctttggaaacc ctgatgagtc	120
cgtgaggacg	aaacgatgac attctgctga ccagattcac ggtcagcaga atgtcatcgt	180

cggttccagg	atccggctgc	taacaaagcc	cgaaaggaag	ctgagttggc	tgctgccacc	240
gctgagcaat	aactagcata	accccttggg	gcctctaaac	gggtcttgag	gggttttttg	300
ctgaaaggag	gaactatatc	cggatatccc	gcaagaggcc	cggcagtacc	ggcataacca	360
agcctatgcc	tacagcatcc	agggtgacgg	tgccgaggat	gacgatgagc	gcattgttag	420
atttcataca	cggtgcctga	ctgcgtttagc	aatttaactg	tgataaacta	ccgcattaaa	480
gcttatcgat	gataagctgt	caaacatgag	aattcggcgt	atacgccgaa	tttcaagggt	540
ctgcgcaacg	acgacgatga	ggtaccacat	cgtcgtcggt	gcgcactgat	gaggccgtga	600
ggccgaaacc	cttgacgcgt	aaaaaaaaacc	cgccccggcg	ggtttttttac	gcgttcctat	660
gcggccgctc	tag					673

<210> 6
 <211> 14
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 6		
agctcgagct	caga	14

<210> 7
 <211> 17
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 7		
tcgacggatc	tagatcc	17

<210> 8
 <211> 166
 <212> DNA
 <213> E. coli

<400> 8		
agatctaaac	gccgatctga	tgagtccgtg
aaacatctca	ctgatgagtc	cgtgaggacg
cattcacctg	atgagtccgt	gaggacgaaa
		ctttagcaaa
		ccaagg
		60
		120
		166

<210> 9
 <211> 378
 <212> DNA
 <213> E. coli

<400> 9		
agatctaaaa	aaaaacctga	tgagtccgtg
aaattatcca	ctgatgagtc	cgtgaggacg
ttacctgatg	agtccgtgag	gacgaaacta
atgagtccgt	gaggacgaaa	ccacttaaaa
ccgtgaggac	gaaacgtgca	aaaagatcta
ggacgaaaca	gtcagaaaag	atctagatct
aaacaccaca	aaagatct	
		60
		120
		180
		240
		300
		360
		378

<210> 10

<211> 162
 <212> DNA
 <213> E. coli

<400> 10
 agatctaaac gttagtctga tgagtccgtg aggacgaaac caacaaaacc aaggagatct 60
 aaaggcatca ctgatgagtc cgtgaggacg aaactgttaa aaccaaggag atctaaacca 120
 catcctgatg agtccgtgag gacgaaacag tttaaacc aa gg 162

<210> 11
 <211> 162
 <212> DNA
 <213> E. coli

<400> 11
 agatctaaaa gagcgtgat gagtccgtga ggacgaaaca gtcaaaacca aggagatcta 60
 aatttcgatc tgatgagtc gtgaggacga aaccagctaa accaaggaga tctaaacgat 120
 ttcctgatga gtccgtgagg acgaaacatc accaaacc aa gg 162

<210> 12
 <211> 56
 <212> DNA
 <213> E. coli

<400> 12
 agatctaaat gcgtctgatg agtccgtgag gacgaaacag gcaggtaaaa ccaagg 56

<210> 13
 <211> 157
 <212> DNA
 <213> Streptomyces lividans

<400> 13
 agatctaaac tcgtcctgat gagtccgtga ggacgaaacg atcaaaacca aggagatcta 60
 aagggcgctg atgagtccgt gaggacgaaa cgcgaaaacc aaggagatct aaagtactcc 120
 tgatgagtc gtgaggacga aaccagcgaa accaagg 157

<210> 14
 <211> 168
 <212> DNA
 <213> Enterococcus faecalis

<400> 14
 agatctaaaa cttaatgctg atgagtccgt gaggacgaaa cgagttaaaa ccaaggagat 60
 cttaaagttta ataactgatg agtccgtgag gacgaaactt gttcaaacca aggagatcta 120
 aaacttttgc tgatgagtc gtgaggacga aacgtgtata aaccaagg 168

<210> 15
 <211> 162
 <212> DNA
 <213> Pseudomonas putida

<400> 15
 agatctaaag gtccatctga tgagtccgtg aggacgaaac aaagcaaacc aaggagatct 60
 aaacagggtc ctgatgagtc cgtgaggacg aaacaatgta aaccaaggag atctaaatcg 120
 ctttctgatg agtccgtgag gacgaaacgt gataaacc aa gg 162

<210> 16

<211> 160
 <212> DNA
 <213> Streptomyces coelicolor

<400> 16
 agatctaaag ctgatctga tgagtccgtg aggacgaaac gaaccaaacc aaggagatct 60
 aaacgagtcc tgatgagtcc gtgaggacga aaccgggaaa ccaaggagat ctaaagtcga 120
 tgctgatgag tccgtgagga cgaaacttcg caaaccaagg 160

<210> 17
 <211> 56
 <212> DNA
 <213> Staphylococcus warneri

<400> 17
 agatctaaat gcgtctgatg agtccgtgag gacgaaacag gcaggcgaaa ccaagg 56

<210> 18
 <211> 38
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> B2 consensus

<400> 18
 tgctcttctg atgagtccgt gaggacgaaa ccgcctga 38

<210> 19
 <211> 39
 <212> DNA
 <213> Mus musculus

<400> 19
 ttcaaagact gatgagtccg tgaggacgaa acgaggatc 39

<210> 20
 <211> 34
 <212> DNA
 <213> Mus musculus

<400> 20
 gtccatctga tgagtccgtg aggacgaaac cggc 34

<210> 21
 <211> 36
 <212> DNA
 <213> HBV

<400> 21
 attagagctg atgagtccgt gaggacgaaa caaacg 36

<210> 22
 <211> 37
 <212> DNA
 <213> HPV

<400> 22

gtcctgactg atgagtccgt gaggacgaaa cattgca	37
<210> 23 <211> 44 <212> DNA <213> Homo sapiens	
<400> 23 tccgttgctct ctgatgagtc cgtgaggacg aaacatgaca ccga	
44	<210> 24 <211> 39 <212> DNA <213> Homo sapiens
<400> 24 gcgaggagct gatgagtccg tgaggacgaa acatggtgt	
39	<210> 25 <211> 37 <212> DNA <213> Mus musculus
<400> 25 aacttttctg atgagtccgt gaggacgaaa cataatg	
37	<210> 26 <211> 42 <212> DNA <213> Rattus norvegicus
<400> 26 tcgaagctgt ctgatgagtc cgtgaggacg aaaccgcgtt ga	
42	<210> 27 <211> 42 <212> DNA <213> Mus musculus
<400> 27 tcgaagctgt ctgatgagtc cgtgaggacg aaaccgcgtt ga	
42	<210> 28 <211> 37 <212> DNA <213> Rattus norvegicus
<400> 28 tcttcgactg atgagtccgt gaggacgaaa catggct	
37	<210> 29 <211> 37 <212> DNA <213> Homo sapiens
<400> 29 tagcacactg atgagtccgt gaggacgaaa cgtttga	
37	

<210> 30
 <211> 36
 <212> DNA
 <213> Homo sapiens

 <400> 30
 tgcaatactg atgagtcctg gaggacgaaa ctgcct 36

 <210> 31
 <211> 36
 <212> DNA
 <213> Homo sapiens

 <400> 31
 aagtcactctg atgagtcctg gaggacgaaa cctgga 36

 <210> 32
 <211> 36
 <212> DNA
 <213> Homo sapiens

 <400> 32
 gataaggctg atgagtcctg gaggacgaaa ctttcc 36

 <210> 33
 <211> 36
 <212> DNA
 <213> Homo sapiens

 <400> 33
 catattcctg atgagtcctg gaggacgaaa cactcg 36

 <210> 34
 <211> 38
 <212> DNA
 <213> Homo sapiens

 <400> 34
 tcatgtatct gatgagtcctg tgaggacgaa acaaaagg 38

 <210> 35
 <211> 36
 <212> DNA
 <213> Homo sapiens

 <400> 35
 ggttaaaactg atgagtcctg gaggacgaaa cttggg 36

 <210> 36
 <211> 36
 <212> DNA
 <213> Homo sapiens

 <400> 36
 gtccagtctg atgagtcctg gaggacgaaa cttaag 36

 <210> 37
 <211> 55

<212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 37
 cccgggaatt cgtgatggcc acgcggccgc tcgagctctg atgagtcctg gagga 55

<210> 38
 <211> 59
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 38
 gacgggatcc agatctgagc tcgagctgac ggtaccgggt accgtttcgt cctcacgga 59

<210> 39
 <211> 55
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 39
 gagctcagat ctggatccgt cgacggatct agatccgtcc tgatgagtc gtgag 55

<210> 40
 <211> 46
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 40
 ttgcttgcc agcggccgct gcagatccgt ttcgtcctca cggact 46

<210> 41
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 41
 gatctgctct tctgatgagt ccgtgaggac gaaaccgctg a 41

<210> 42
 <211> 41
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 42
 gatctcagcg gtttcgtcct cacggactca tcagaagagc a 41

<210> 43
 <211> 64
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ribozyme construct

<400> 43
 cttggaaccg gatgccaggc atccggttgg tgcctttcgt cctcacggac tcatcagtag 60
 tgaa 64

<210> 44
 <211> 65
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ribozyme construct

<400> 44
 cttggaaccg gatgccaggc atccggttaa gaagtttcgt cctcacggac tcatcagtta 60
 cccta 65

<210> 45
 <211> 65
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ribozyme construct

<400> 45
 aattcaaccg gatgccaggc atccggttct caggtttcgt cctcacggac tcatcagaaa 60
 atctg 65

<210> 46
 <211> 64
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ribozyme construct

<400> 46
 aattcaaccg gatgccaggc atccggtttg gacctttcgt cctcacggac tcatcagagc 60
 gtgg 64

<210> 47
 <211> 63
 <212> DNA
 <213> Artificial Sequence

<220> .
 <223> ribozyme construct

<400> 47
 aattcaaccg gatgccaggc atccggttca gccttttcgtc ctcacggact catcagtgtg 60
 ttg 63

<210> 48
 <211> 64
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> ribozyme construct

<400> 48
 aattcaaccg gatgccaggc atccggttaa ccttttttcgt cctcacggac tcatacagtc 60
 tacg 64

<210> 49
 <211> 170
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> pClip triple ribozyme

<221> modified_base
 <222> (1)...(170)
 <223> n=a, c, g, or u

<400> 49
 gcggccgcuc gagcucugau gaguccguga ggacgaaacg guacccggua cgcucagcuc 60
 gagaucunnn nnnncugaug aguccgugag gacgaaannn nnagaucgcu cgacggaucu 120
 agauccgucc ugaugagucc gugaggacga aacggaucug cagcggccgc 170

<210> 50
 <211> 281
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> pChop triple ribozyme

<221> modified_base
 <222> (1)...(281)
 <223> n=a, c, g, or u

<400> 50
 aagcuuugga acccugauga guccgugagg acgaaacgau gacauucugc ugaccagauu 60
 cacggucagc agaaugucau ucugcugacc agauucacgg ucagcagaa ugaucgucg 120
 guuccaggga uccnnnnnnc ugaugagucc gugaggacga aannnnnnnn nggaauucca 180
 aggucugcgc aacgacgaug agguaccaca ucgucgucgu ugcgcacuga ugaggccgug 240
 aggccgaaac ccuugacgcg uuccuaugcg gccgcucuag a 281

<210> 51
 <211> 364
 <212> DNA

<213> Artificial Sequence

<220>

<223> pSnip ribozyme cassette

<400> 51

aagcttcgag	ctctgatgag	tccgtgagga	cgaaacggta	cccgggtaccg	tcagctcgac	60
ctcagatctc	tcgagcaatt	gatccgtcga	cggatgtaga	tccgtcctga	tgagtccgtg	120
aggacgaaac	ggatctgcag	cggatatcca	gctttggaac	cctgatgagt	ccgtgaggac	180
gaaacgatga	cattctgctg	accagattca	cggtcagcag	aatgtcatcg	tcggttccag	240
gaccccttgc	tgaattccaa	gggtctgcgc	aacgacgacg	atgagggtacc	acatcgctcg	300
cggttgcgcac	tgatgaggcc	gtgaggccga	aacccttgac	gcgttcctat	gcggccgctc	360
taga						364

<210> 52

<211> 686

<212> DNA

<213> Artificial Sequence

<220>

<223> modified pChop cassette

<400> 52

tcagaaaatt	atatttaaatt	tccaattgac	attgtgagcg	gataacaata	taatgtgtgg	60
aagcttatcg	ataccgtcga	cctcgaagct	ttggaaccct	gatgagtccg	tgaggacgaa	120
acgatgacat	tctgctgacc	agattcacgg	tcagcagaat	gtcatcgtcg	gttccaggat	180
ccggctgcta	acaaagcccc	aaaggaagct	gagttggctg	ctgccaccgc	tgagcaataa	240
ctagcataac	cccttggggc	ctctaaacgg	gtcttgaggg	gttttttctg	gaaaggagga	300
actatatccg	gatatcccgc	aagaggcccc	gcagtaccgg	cataaccaag	cctatgccta	360
cagcatccag	ggtgacggtg	ccgaggatga	cgatgagcgc	attgttagat	ttcatacacg	420
gtgcctgact	gcgttagcaa	tttaactgtg	ataaactacc	gcattaaagc	ttatcgatga	480
taagctgtca	aacatgagaa	ttcggcgtat	acggccgaat	ttcaagggtc	tgcgcaacga	540
cgacgatgag	gtaccacatc	gtcgtcgttg	cgcactgatg	aggccgtgag	gccgaaaccc	600
ttgacgcgta	aaaaaaaccc	gccccggcgg	gtttttttacc	cttcctatgc	ggccgctcta	660
gtcgaggggg	ggcccgcctag	aactag				686